

TRASMISSIONI INDUSTRIALI s.a.s.

Via Lago di Annone, 15 36015 Schio (VI)
Tel. 0445 - 500142 / 500011 Fax 0445 - 500018
info@trasmissioniindustriali.com



Power Transmission

PRODUCTS & APPLICATIONS



www.trasmissioniindustriali.com

**optibelt
OMEGA HP**
... for high performance drives

Optibelt OMEGA HP

The high performance

Compact synchronous drives are used in the whole area of mechanical drive engineering. For that, performance, optimised running behavior and operational reliability are only some of the high demands made on the timing belt. Modern manufacturing technologies plus quality inspections in all stages of processing guarantee super reliability and a continuously high quality standard for Optibelt products. The Optibelt OMEGA HP high performance timing belt was especially developed for heavily loaded, high speed drives. Improved materials and highly developed process engineering form the basis for this very high performance level. For every power transmission requirement there is an appropriate belt section.

The advertisement features a large, stylized graphic of a timing belt. The belt is shown in a curved, dynamic pose, with a surfer riding on its upper surface. The surfer is wearing a red shirt and is in a crouched position, riding a wave. The background of the belt's surface is a deep blue with white, foamy water splashes. The belt itself is black with visible teeth. At the bottom of the belt's curve, there is a circular mechanical component, possibly a pulley or a gauge, with a white face and black markings. The entire graphic is set against a red background. Text elements are integrated into the design: 'Optibelt' is written in large, bold, white letters at the top right of the belt. Below it, 'www.optibelt.com' is written in smaller white text. On the right side of the belt, the 'optibelt' logo is visible, consisting of a red square with white dots and the word 'optibelt' in white. Below the logo, the words 'Power Transmission' are written in white. On the left side of the belt, the words 'neu new' are written in large, bold, white letters. Below this, the words 'schneller', 'stärker', and 'kompakter' are written in white, each on a separate line. Below these, the words 'stronger', 'faster', and 'more compact' are written in white, each on a separate line. At the bottom of the belt, the text '... für Hochleistungsantriebe ... for high powered drives' is written in white. At the very bottom of the advertisement, the words 'optibelt OMEGA HP' are written in large, bold, white letters. Below this, the words 'Zahnflachriemen Timing Belts' are written in white. On the left side of the advertisement, the words 'Made in Germany' are written vertically in white.

... für Hochleistungsantriebe ... for high powered drives

optibelt OMEGA HP

Zahnflachriemen Timing Belts

Timing belt for extremely loaded, high speed drives!

The new

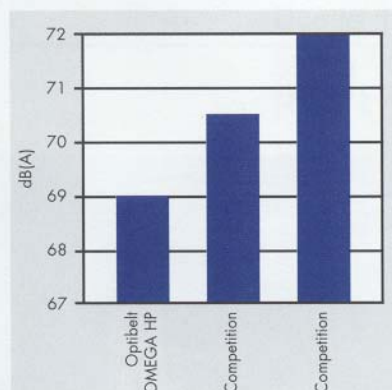
Among experts, Optibelt timing belts enjoy an excellent reputation. They are considered to be particularly powerful and extremely durable. The product series "Optibelt OMEGA" stands for an extraordinarily high quality standard. It is now supplemented by a high performance timing belt: Faster, stronger, more compact – that is how the new Optibelt OMEGA HP presents itself, a timing belt for the highest demands.

optibelt OMEGA HP

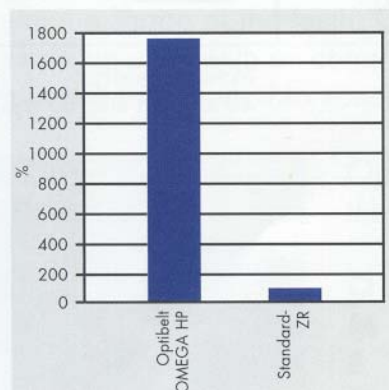
Advantages

- highest precision, exact synchronicity
- temperature resistant from -30°C to 100°C
- up to 18 times the life compared to standard timing belts
- very low noise generation
- low bearing loads
- maintenance free
- improved wear characteristics
- increased power transmission results in drive size reductions, saving cost
- up to 3.5 times the power transmission capability compared to the standard version

Noise level



Life



Preferred areas of application

- textile machines
- machine tools
- compressors
- printing presses
- wood working machines
- paper making machines

Timing pulleys:

The geometry of the Optibelt OMEGA HP enables it to fit all common curvilinear toothed timing pulleys. The timing belt design ensures an optimum support of the belt tooth in the pulley.

Optibelt OMEGA HP

Product description

Structure

Top surface

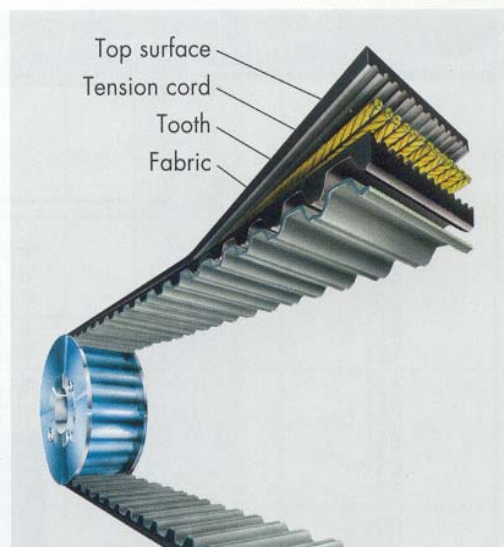
A durable and flexible top surface protects the tension cord from external influences. Furthermore, the polychloroprene material is resistant to mineral oils and moisture and protects from wear due to friction.

Tension cord

The tension member consists of twisted contra-rotating special glass fibre, cords in pairs. This tension cord is characterized by high tensile strength, very good flexibility and very low stretch.

Teeth

The teeth consist of a new type of material mixed with aramid fibres, guaranteeing high shear strength. They are designed to engage into the pulley teeth with the lowest friction. The indent in the tooth tip promotes low noise generation.



Fabric

The specially developed nylon fabric impresses with its extraordinarily low coefficient of friction and its low noise characteristics. Furthermore, it protects the tooth from early wear and prevents tooth shear.

Standard properties and special constructions

As a standard all Optibelt OMEGA HP timing belts are resistant to a limited extent to oil, heat, cold, tropical conditions and ozone and are, therefore, insensitive to the influences of the weather. There are no special markings.

Oil resistance

The oil resistance prevents the damaging influence of mineral oils and greases, so long as these substances are not permanently, or in larger amounts, in contact with the timing belt.

Temperature resistance

The timing belt accepts ambient temperatures of $\approx -30^{\circ}\text{C}$ up to $+100^{\circ}\text{C}$. Temperatures exceeding these values will result in early ageing and brittleness and thus in early belt failure.

Electrical conductivity (anti static)

The electrical conductivity allows the safe leakage of electrostatic charges. On timing belt drives such charges can be so high that without this electrical conductivity there is a danger of

ignition due to sparking. The application of timing belts with electrically conductive (anti static) properties requires a test in accordance with ISO 9563 and confirmation by the issue of a final inspection certificate.

Noise generation

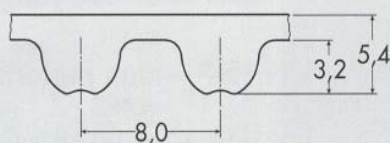
The optimised tooth shape and the indent in the tip of the tooth of the Optibelt OMEGA HP results in substantially lower noise levels. In connection with the newly developed materials, the noise level can be further reduced even with high speeds and high belt tensions.

Belt life

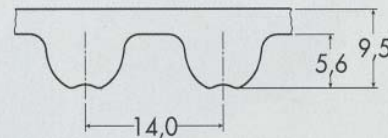
Dynamic tests with the Optibelt OMEGA HP suggest a life expectancy up to 18 times longer than standard timing belts. This results in a substantially higher operational reliability.

Efficiency

The especially developed tooth fabric and the flexible belt structure allow a nearly friction free drive with an efficiency of 98 %.



Type 8M-HP

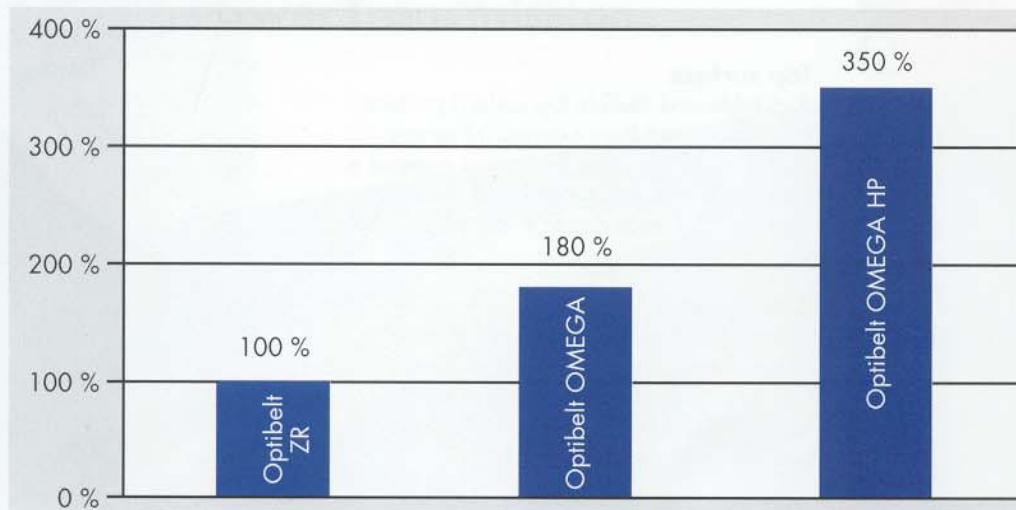


Type 14M-HP

(average values only - mm)

Optibelt OMEGA HP

Comparison of performance



High performance drives today require top class drive belts. Extended lifetime, higher performance, reduction of replacement intervals, material and system cost savings – all these requirements apply to the new generation of Optibelt timing belts.

The answer is:

optibelt OMEGA HP

The new member of the family is brilliant due to up to

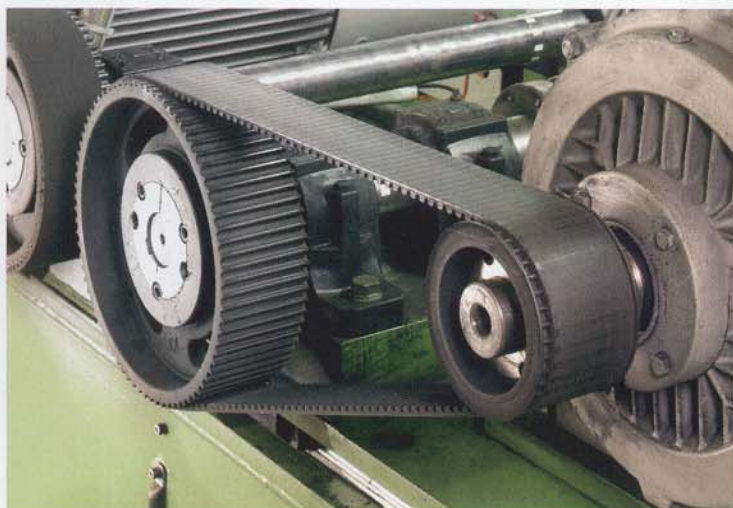
an 18 times longer life

a 3.5 times performance increase

40 % system cost savings with the same performance

= optimised drive dimensioning and utilization

Due to the unique shape of the teeth, Optibelt OMEGA HP high performance timing belts can be used with all commercially available standard timing pulleys with curvilinear teeth. No special pulleys are required.



Optibelt OMEGA HP,
the name speaks for itself:

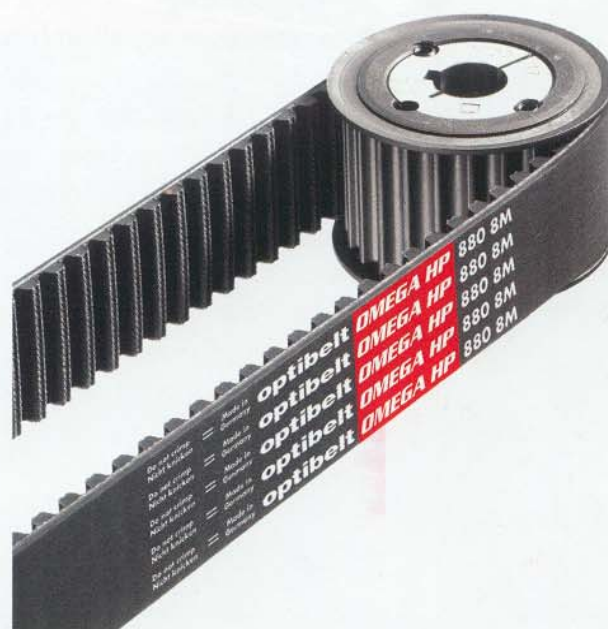
- O** – optimised tooth section
- M** – made in Germany
- E** – enormous performance potential
- G** – greatly reduced overall width
- A** – a wide range of application

HP – high performance

Optibelt OMEGA HP:
The first choice for design engineers

Optibelt OMEGA HP

Type 8M HP – Pitch 8 mm			Type 14M HP – Pitch 14 mm		
Belt designation	Pitch length (mm)	Number of teeth	Belt designation	Pitch length (mm)	Number of teeth
424 - 8M HP	424	53	966 - 14M HP	966	69
480 - 8M HP	480	60	1190 - 14M HP	1190	85
560 - 8M HP	560	70	1400 - 14M HP	1400	100
600 - 8M HP	600	75	1610 - 14M HP	1610	115
640 - 8M HP	640	80	1778 - 14M HP	1778	127
656 - 8M HP	656	82	1890 - 14M HP	1890	135
680 - 8M HP	680	85	2100 - 14M HP	2100	150
720 - 8M HP	720	90	2310 - 14M HP	2310	165
760 - 8M HP	760	95	2450 - 14M HP	2450	175
800 - 8M HP	800	100	2590 - 14M HP	2590	185
840 - 8M HP	840	105	2800 - 14M HP	2800	200
880 - 8M HP	880	110			
920 - 8M HP	920	115			
960 - 8M HP	960	120			
1000 - 8M HP	1000	125			
1040 - 8M HP	1040	130			
1064 - 8M HP	1064	133			
1080 - 8M HP	1080	135			
1120 - 8M HP	1120	140			
1160 - 8M HP	1160	145			
1200 - 8M HP	1200	150			
1280 - 8M HP	1280	160			
1304 - 8M HP	1304	163			
1360 - 8M HP	1360	170			
1400 - 8M HP	1400	175			
1424 - 8M HP	1424	178			
1440 - 8M HP	1440	180			
1520 - 8M HP	1520	190			
1600 - 8M HP	1600	200			
1760 - 8M HP	1760	220			
1800 - 8M HP	1800	225			
2000 - 8M HP	2000	250			
2240 - 8M HP	2240	280			
2400 - 8M HP	2400	300			
2600 - 8M HP	2600	325			
2800 - 8M HP	2800	350			



Standard widths:
20 mm, 30 mm, 50 mm, 85 mm

Standard widths:
40 mm, 55 mm; 85 mm, 115 mm, 170 mm

Order example:

Timing belt: Optibelt OMEGA 1200 8M HP 20

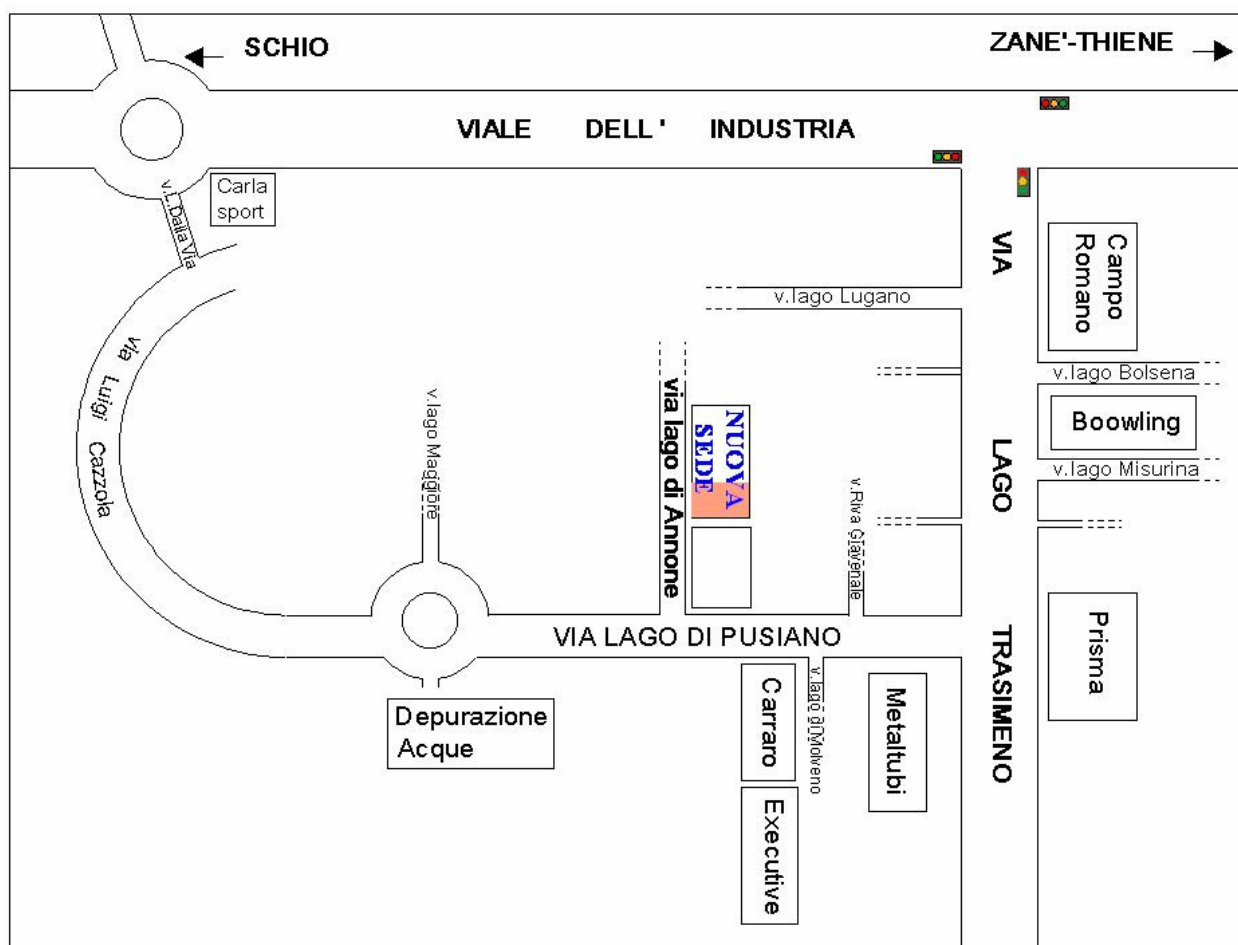
1200 = 1200 mm pitch length

8M HP = section and construction

20 = 20 mm belt width

Further dimensions on request.

Note



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